

## N-type i-TOPCon bifacial dual glass Monocrystalline module

PRODUCT: TSM-XXXNEG9M5C.26

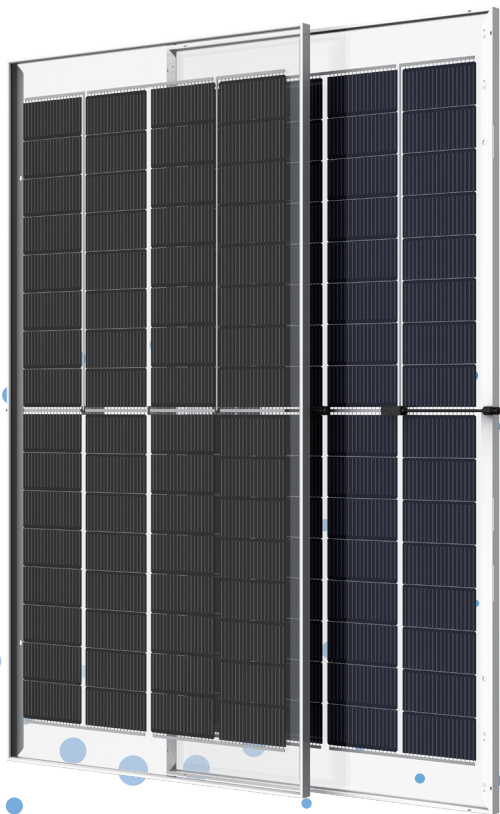
POWER RANGE: 305-335W

# 335W

MAXIMUM POWER OUTPUT

# 17.2%

MAXIMUM EFFICIENCY



### Ideal for large scale installations

- Reduce BOS cost by connecting more modules in a string
- 1500V IEC certified



### One of the industry's most trusted modules

- Field proven performance



### Highly reliable due to stringent quality control

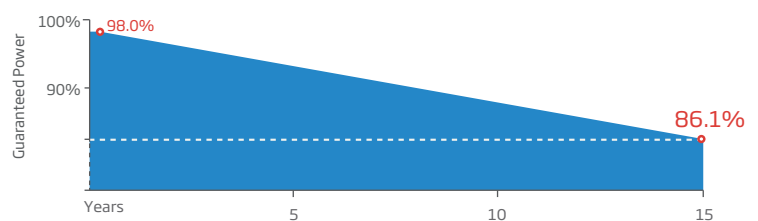
- Rigorous in-house tests (TC, HF etc.)
- 100% EL double inspection
- Fire Class rating C



### Certified to withstand the most challenging environmental conditions

- 2400 Pa negative load
- 5400 Pa positive load

### Trina Solar's Bifacial Dual Glass Performance Warranty

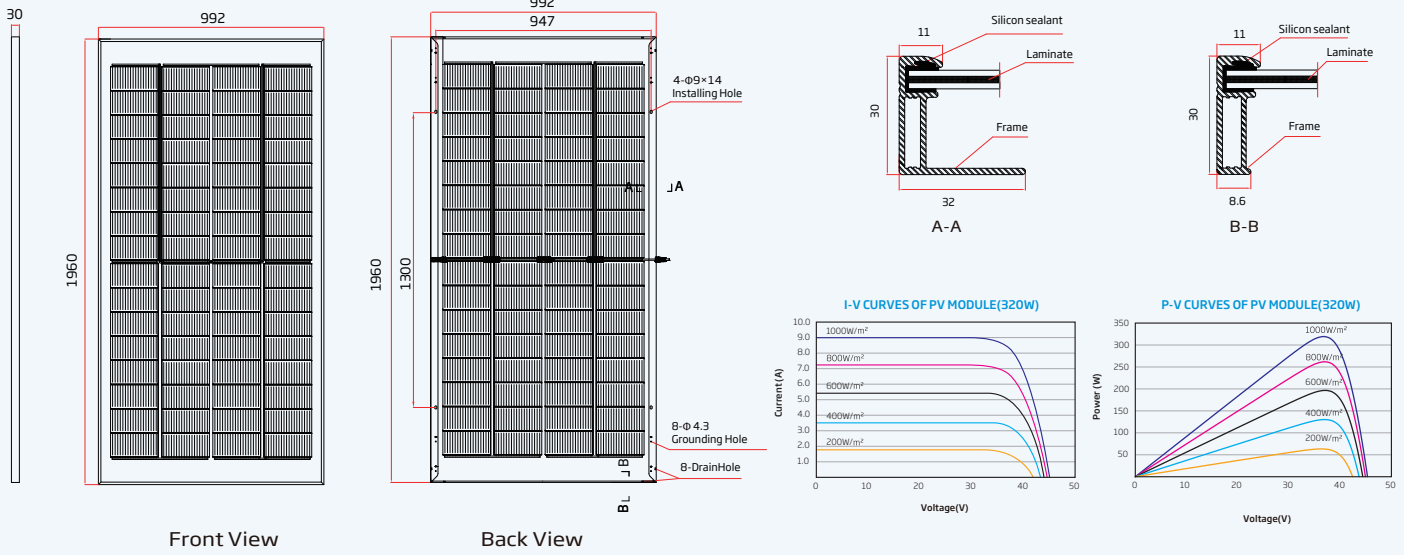


### Comprehensive Products and System Certificates



IEC61215/IEC61730  
 ISO 9001: Quality Management System  
 ISO 14001: Environmental Management System  
 ISO14064: Greenhouse Gases Emissions Verification  
 OHSAS 18001: Occupational Health and Safety Management System

## DIMENSIONS OF PV MODULE(mm)



## MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	64 cells
Module Dimensions	1960×992×30 mm (77.17×39.06×1.18 inches)
Weight	24.0kg (52.91 lb)
Front Glass	2.0 mm (0.08 inches), AR Coated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass

Frame	30mm (1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Length can be customized
Connector	Stäubli MC4 EV02

## ELECTRICAL DATA (STC & NOCT&BNPI) TSM-XXXNEG9M5C.26 (XXX=305-335)

Testing Condition	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	
Peak Power Watts- $P_{MAX}$ (Wp)*	305	234	338	310	238	343	315	241	349	320	245	355	325	249	360	330	252	366	335	256	371	
Binning Tolerance- $P_{MAX}$ (W)	0 ~ +5																					
Maximum Power Voltage- $V_{MPP}$	36.5	34.8	36.5	36.9	35.1	36.9	37.3	35.5	37.3	37.7	35.8	37.7	38.2	36.3	38.2	38.6	36.6	38.6	39.0	37.0	39.0	
Maximum Power Current- $I_{MPP}$ (A)	8.36	6.71	9.26	8.41	6.76	9.31	8.45	6.80	9.36	8.49	6.84	9.40	8.51	6.85	9.43	8.55	6.89	9.47	8.59	6.93	9.52	
Open Circuit Voltage- $V_{oc}$ (V)	44.6	42.3	44.6	44.8	42.5	44.8	45.0	42.7	45.0	45.3	43.0	45.3	45.6	43.4	45.6	45.9	43.8	45.9	46.2	44.2	46.2	
Short Circuit Current- $I_{sc}$ (A)	8.83	7.12	9.78	8.88	7.16	9.84	8.92	7.19	9.88	8.96	7.22	9.93	8.98	7.24	9.95	9.02	7.28	9.99	9.06	7.32	10.04	
Module Efficiency $\eta_m$ (%)	15.7		15.9		16.2		16.5		16.7		17.0		17.2									

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. BNPI: Irradiance at 1000W/m² +  $\alpha \times 135W/m²$ , Air Mass AM1.5, Temp 25°C \*Measuring tolerance: ±3%

## Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Total Equivalent power - $P_{MAX}$ (Wp)	320	336	326	341	331	347	336	352	341	358	347	363	352	369		
Maximum Power Voltage- $V_{MPP}$ (V)	36.5	36.5	36.9	36.9	37.3	37.3	37.7	37.7	38.2	38.2	38.6	38.6	39.0	39.0		
Maximum Power Current- $I_{MPP}$ (A)	8.78	9.20	8.83	9.25	8.87	9.30	8.91	9.34	8.94	9.36	8.98	9.41	9.02	9.45		
Open Circuit Voltage- $V_{oc}$ (V)	44.6	44.6	44.8	44.8	45.0	45.0	45.3	45.3	45.6	45.6	45.9	45.9	46.2	46.2		
Short Circuit Current- $I_{sc}$ (A)	9.27	9.71	9.32	9.77	9.37	9.81	9.41	9.86	9.43	9.88	9.47	9.92	9.51	9.97		

Power Bifaciality: 80±7%;  $\eta_{Pmax}$ : 80±7%;  $\eta_{Voc}$ : 100±3%;  $\eta_{Isc}$ : 80±7%

## TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of $P_{MAX}$	-0.29%/°C
Temperature Coefficient of $V_{oc}$	-0.24%/°C
Temperature Coefficient of $I_{sc}$	0.04%/°C

## MAXIMUM RATINGS

Operational Temperature	-40~+85 °C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	20A

## WARRANTY

5 year Product Workmanship Warranty
15 year Power Warranty
2% first year degradation
0.85% Annual Power Attenuation
(Power degradation values above apply to frontside, refer to product warranty for power degradation for backside and other details)

## PACKAGING CONFIGURATION

Modules per box: 36 pieces
Modules per 40' container: 864 pieces